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In re Application of :  
CHRISTENSEN et al. :  
Serial No.: 10/529,397 : Decision on Petition  
Filed: March 28, 2005 :  
Attorney Docket No.: CHRISTENSEN=12 :

This letter is in response to the petition filed under 37 C.F.R. § 1.181 filed on April 14, 2009 to vacate the holding of non-responsiveness mailed March 31, 2009.

## BACKGROUND

This application was filed as a national stage application under 35 USC 371 of PCT/DK03/00635 and as such, is eligible for unity of invention practice.

On November 20, 2007, the examiner mailed to the applicant a restriction requirement under 35 USC 121 and 372 requiring applicant to elect between Groups I-X. The examiner reasoned that the claimed inventions failed to share a special technical feature, since the first claimed invention was disclosed in Frankel (US 6,506,342). The examiner further required several separate elections of species for each of Groups I-X.

On January 17, 2008, applicants elected, with traverse, Group II, and provided arguments traversing the restriction requirement. Applicants further elected species II-a) corresponding to elected Group II. Applicants also elected species I-a) through I-g) specific to Group I in the event that the examiner was convinced to rejoin Group I to Group II.

On April 10, 2008, the examiner mailed to applicants a non-final Office Action. In the action, the examiner considered applicants' traversal of the restriction requirement and found them unpersuasive because the claimed invention failed to recite a special technical feature as evidenced by Grotli et al. (US 6,642,334). The examiner made the restriction requirement final. Claims 1-31 and 43-102 were withdrawn from consideration as being directed to a non-elected

invention. Claims 34-37 were withdrawn from consideration as being directed to a non-elected species. Claims 32, 33, and 38-42 were examined on the merits. The Office action contained, *inter alia*, the following rejections:

- 1) Claims 38 and 42 were rejected under 35 USC § 112, second paragraph, as being indefinite.
- 2) Claims 32 and 38-42 were rejected under 35 USC § 102(a) as being anticipated by Miranda et al.
- 3) Claims 32 and 38-42 were rejected under 35 USC § 102(b) as being anticipated by Strathmann et al.
- 4) Claims 32 and 38-42 were rejected under 35 USC § 102(e) as being anticipated by Grotli et al.
- 5) Claims 32-33 and 38-42 were rejected under 35 USC § 103(a) as being unpatentable over Grotli et al. and Seul et al.
- 6) Claims 32 and 38-41 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 3-10 and 59 of copending Application No. 11/631,181.
- 7) Claims 32 and 41 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 94 and 96 of copending Application No. 10/566,757.

On September 10, 2008, applicants submitted a response. Claims 2-31, corresponding to non-elected Group I, were amended to depend from examined claim 32. New claims 103-105 were submitted. The response also included, *inter alia*, remarks addressing the issues raised in the previous Office action.

On December 15, 2008, the examiner mailed to applicants a restriction requirement under 35 USC 121 and 372 requiring applicants to elect a species corresponding to new claim 104 or a species corresponding to new claim 105.

On January 8, 2009, applicants submitted a supplemental amendment canceling claims 103-105 and thus rendering moot the restriction requirement of December 15, 2008.

On March 31, 2009, the examiner mailed to applicants a notice of non-responsiveness. Specifically, the examiner indicated that amended claims 2-31 now corresponded to the elected Group II rather than non-elected Group I. The examiner indicated that the response of January 17, 2008 was incomplete regarding species I-c), I-e), I-f), and I-g) which were elected corresponding to non-elected Group I insofar as the elections applied to amended claims 2-31 corresponding to elected Group II.

On April 14, 2009, applicants submitted the petition under consideration, and a supplemental election of species I-c).

## DISCUSSION

The petition and file history have been carefully considered.

Prior to consideration of the Petition, it is noted that the grouping I and II set forth in the original restriction requirement are incorrect.

Claim 1 and 32 as they were amended on 27 January 2006 are set forth below.

1. (currently amended) An encoded beaded polymer matrix comprising a plurality of spatially immobilised particles, wherein each particle is individually detectable, wherein the encoded bead has a diameter of from 0.5 millimeter to less than 2.0 millimeter and comprises from 3 to 10 particles, wherein the diameter of the particles is less than 30 micrometer.

32. (currently amended) A composition comprising a plurality of different, spatially encoded, beads according to ~~any of claims claim 1 to 31~~, wherein essentially each bead is individually identifiable.

The restriction requirement mailed 20 November 2007 set forth groups I and II as follows:

Group I, claim(s) 1-31, drawn to an immobilized beaded polymer matrix (i.e. bead array).

Group II, claim(s) 32-42, drawn to a composition (i.e. bead library).

Because Claim 32 is directed to subject matter that depends from and further limits the subject matter of claim 1, a restriction requirement, including lack of unity determination, between claim 1 and claim 32 was not proper. For this reason, Office action mailed on 10 April 2008 was incomplete for not having addressed the claims of Group I.

Regarding the requirement to elect a single species of particle, it is noted that the beaded matrix of claim 7, set forth below, contains a plurality of beads and the specification teaches various ranges of particles on page 24 and 25.

7. (currently amended) The beaded ~~or granulated~~  
polymer matrix according to claim 1 comprising from 4 to 10  
particles.

However, the first Office action on the merits specifically states that compositions comprising a particular number of beads would have been obvious.

The claims would have been obvious because the substitution of one known element (i.e. composition of approximately 80 beads) for another (i.e. composition of 100 beads) would have yielded predictable results (i.e. ability to test addition ligands bound to the additional beads, etc.) to one of ordinary skill in the art at the time of the invention. See *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727 (2007).

Additionally, the specification teaches that the size of the beads may swell, so that the size would not be constant. Accordingly, the specific number of beads in the polymer matrix cannot be considered a particular set value which imparts the inventive concept for rejoined Groups I and II. For this reason, the requirement to elect a specific number of beads was not proper.

In the first Office action on the merits, the examiner objected to claims 32-33 and 38-42 as incorporating limitations from withdrawn claim. Because this objection is based upon an improper grouping of the claims, it cannot be maintained.

11. Claims 32-33 and 38-42 are objected to because of the following informalities: claim 32 incorporates limitations from withdrawn claim 1 (i.e. nonelected invention). Incorporation of the limitations of claim 1 into claim 32 is suggested. Appropriate correction is required.

In the petition, applicants suggest that the examiner has somehow indicated claim 32 to be allowable. This is not the case. In the first Office action on the merits, claim 32 is rejected at least under 35 USC 102(a), (b) and (e). As such, claim 32 has not been indicated as allowable.

Turning now to the merits of the petition, applicants argue two points. First, applicants argue, *inter alia*, that the original election of the species in question was conditional upon an election of Group I. Applicants reason that since Group II was elected, they were under no obligation to

elect species corresponding to non-elected Group I, and thus the election of January 17, 2008 was complete and fully responsive. This is persuasive.

Second, applicants argue that the species elections were complete as they pertain to the original requirement to elect species and the currently pending claims. Regarding species I-c), the original requirement to elect a species required applicants to elect “a species of particle number (claims 7-9)” (see Office action mailed November 20, 2007, p. 3). Applicant elected a particle number of 4-10 particles, as was recited in claim 7 at that time, indicating that such was fully responsive. In addition, applicants further elected the species of 4 particles. The requirement to elect a species of particle number is hereby withdrawn, rendering these elections moot. Applicants’ claimed ranges of particular numbers will be examined together.

Regarding species I-e), I-f), and I-g), applicants argue that the election of a spectroscopically detectable marker as per claim 17 was fully responsive to the original requirement to elect “a species of marker (claims 17-20 and 27)” (see Office action mailed November 20, 2007, p. 3); election of a marker detected by probing with one or more predetermined frequencies as per claim 31 was fully responsive to the original requirement to elect “a species of detection (claims 21-23 and 27-31)” (see Office action mailed November 20, 2007, p. 3); and election of an optically transparent polymer as per claim 24 was fully responsive to the original requirement to elect “a species of polymer (claims 24-26)” (see Office action mailed November 20, 2007, p. 4). Applicants further argue that the three elections “correlate” in that election I-f)’s “probing” contemplates irradiation of the beads with “one or more predetermined frequencies” causing the marker to fluoresce. Applicants urge that fluorescence is “spectroscopically detectable”, consistent with election I-e). Finally applicants argue that the polymer of claim 24 is the “optically transparent” matrix of the bead, which facilitates excitation of the marker and observation of the fluorescence. Applicants explain how this corresponds to the claims language recited in claim 24.

In order to access whether the propriety of election of species requirement, of portion of it as directed to Group I has been set forth below.

**The species are as follows:**

**For Group I:**

- a. a species of dispersion (claims 3-4 and 12)**
- b. a species of particle shape (claims 5-6 and 10)**
- c. a species of particle number (claims 7-9)**
- d. a species of particle size (claims 11 and 13-16)**
- e. a species of marker (claims 17-20 and 27)**
- f. a species of detection (claims 21-23 and 27-31)**

For the species of Marker (e), in the restriction requirement mailed 20 November 2007, applicant was required to elect amongst claims 17-20 and 27 and only claim 32 was indicated as generic. In response, applicant elected the spectroscopically detectable marker of claim 17, shown below.

17. (withdrawn) The composition according to claim 7, wherein said particles comprise a spectroscopically detectable marker.

18. (withdrawn) The composition according to claim 7, wherein said particles comprise a fluorescently detectable marker.

19. (withdrawn) The composition according to claim 18, wherein the fluorescently detectable marker is selected from the group consisting of dyes based on the structure of fluorescein, oregon green, rhodamine, aminobenzoic acid, Alexa™ probes, BODIPY-dyes, cascade blue dye, coumarine, naphthalenes, dansyl, indoles, pyrenes pyridyloxazole, cascade yellow dye, Dapoxyl Dye, Fluorescamine, aromatic ortho dialdehydes, OPA and NDA, ATTO-Tag's, 7-Nitrobenz-2-Oxa-1,3-Diazole or derivatives thereof.

20. (withdrawn) The composition according to claim 18, wherein said fluorescently detectable marker is selected from the fluorescent group of compounds and materials consisting of fluorescent organic polycyclic compounds, conjugated vinylic compounds, heterocyclic transition metal complexes, rare earth metal compounds, inorganic oxides and glasses.

27. (withdrawn) The composition according to claim 32, wherein said particles comprise a marker, which is detectable by fast spectroscopic techniques other than fluorescence spectroscopy.

In doing so, applicants have complied with the requirement *as set forth*. If applicants were to have been required to elect one of the markers of claim 19, for example, the requirement should have been set forth with that guidance and claim 17 should have been indicated as generic. However, given that various forms of detectable markers are well known in the prior art, and cannot be considered the point of novelty, this requirement is withdrawn.

With regard to the requirement to elect a single species of polymer in claims 24-26, it is noted that the lists of polymers are not "species" per se but a list of generic and overlapping concepts that are tied together with the language "or combinations thereof." For this reason, it is improper

to require applicants to elect one of the species as the species are not patentably distinct one from another.

For similar reasons, the requirement to elect a species of detection and a species of polymer is also hereby withdrawn.

## **DECISION**

The petition is **GRANTED** for the reasons set forth above.

The restriction requirement set forth between Group I and II is hereby withdrawn.

The requirement to elect a single species of particle number, species of marker, species of detection and species of polymer is hereby withdrawn.

The Office action mailed 10 April 2008 is considered incomplete for not addressing claims to withdrawn Group I.

The objection to claims 32-33 and 38-42 for incorporating limitations from withdrawn claim has is hereby withdrawn.

The communication mailed March 31, 2009, indicating an incomplete, non-responsive amendment is hereby **VACATED**.

**The application will be forwarded to the examiner for consideration of the papers filed September 10, 2008, January 8, 2008, and April 14, 2009 and for preparation of a non-final Office action consistent with this decision.**

Should there be any questions about this decision, please contact Quality Assurance Specialist Julie Burke, by letter addressed to Director, Technology Center 1600, at the address listed above, or by telephone at 571-272-0512 or by facsimile sent to the general Office facsimile number, 571-273-8300.



Michael Wityshyn  
Acting Director, Technology Center 1600